

Title (en)

Gypsum-containing product having increased resistance to permanent deformation and method and composition for producing it

Title (de)

Gipsenthaltende Produkte mit erhöhter Widerstandsfähigkeit gegen dauerhafte Verformung und Verfahren und Zusammensetzung zu ihrer Herstellung

Title (fr)

Produit contenant du gypse, ayant une resistance accrue a la deformation permanente, procede et composition utilisés pour la production du dit produit

Publication

EP 2263986 A1 20101222 (EN)

Application

EP 10009911 A 19980821

Priority

- EP 98943276 A 19980821
- US 91605897 A 19970821

Abstract (en)

The invention provides a set gypsum-containing product having increased resistance to permanent deformation and a method for preparing it comprising forming a mixture of a calcium sulfate material, water, and an appropriate amount of one or more enhancing materials chosen from condensed phosphoric acids, each of which comprises 2 or more phosphoric acid units; and salts or ions of condensed phosphates each of which comprises 2 or more phosphate units. The mixture is then maintained under conditions sufficient for the calcium sulfate material to form a set gypsum material.

IPC 8 full level

C04B 28/14 (2006.01); **E04C 2/04** (2006.01); **B32B 13/00** (2006.01); **C04B 22/16** (2006.01); **C04B 41/70** (2006.01)

CPC (source: EP KR US)

C04B 14/00 (2013.01 - US); **C04B 16/02** (2013.01 - US); **C04B 16/04** (2013.01 - US); **C04B 22/16** (2013.01 - EP US); **C04B 28/14** (2013.01 - EP KR US); **C04B 28/147** (2013.01 - EP US); **C04B 41/009** (2013.01 - EP US); **C04B 41/70** (2013.01 - EP US); **C04B 2111/00094** (2013.01 - EP US); **C04B 2111/00612** (2013.01 - EP US); **C04B 2111/0062** (2013.01 - EP US); **C04B 2111/00672** (2013.01 - EP US); **C04B 2111/52** (2013.01 - EP US); **C04B 2111/54** (2013.01 - EP US); **Y10T 428/192** (2015.01 - EP US); **Y10T 428/26** (2015.01 - EP US); **Y10T 428/31971** (2015.04 - EP US)

C-Set (source: EP US)

1. **C04B 28/147 + C04B 14/185 + C04B 20/0048 + C04B 22/16 + C04B 24/16 + C04B 24/38 + C04B 38/10**
2. **C04B 28/147 + C04B 14/185 + C04B 20/0048 + C04B 22/16 + C04B 24/32 + C04B 24/38 + C04B 38/10**
3. **C04B 28/147 + C04B 14/185 + C04B 14/38 + C04B 22/004 + C04B 22/16 + C04B 24/16 + C04B 24/383 + C04B 38/10 + C04B 40/0028**
4. **C04B 41/009 + C04B 28/147**
5. **C04B 28/14 + C04B 14/185 + C04B 14/46 + C04B 22/16 + C04B 24/26 + C04B 24/38 + C04B 38/10 + C04B 2103/44**

Citation (applicant)

- US 4009062 A 19770222 - LONG WILLIAM J
- US 2985219 A 19610523 - SUMMERFIELD JOHN M
- US 5320677 A 19940614 - BAIG MIRZA A [US]
- US 3297601 A 19670110 - EARL MAYNARD, et al
- US 5395438 A 19950307 - BAIG MIRZA A [US], et al
- US 3246063 A 19660412 - PODGURSKI JOHN S
- US 5534059 A 19960709 - IMMORDINO JR SALVATORE C [US]
- US 4676835 A 19870630 - GREEN HAROLD A [US], et al
- US 5158612 A 19921027 - SAVOLY ARPAD [US], et al
- US 5240639 A 19930831 - DIEZ RICARDO [US], et al
- US 5643510 A 19970701 - SUCECH STEVEN W [US]
- WO 9516515 A1 19950622 - HENKEL CORP [US]
- US 57736795 A 19951222

Citation (search report)

- [X] EP 0001591 A1 19790502 - HOECHST AG [DE]
- [X] EP 0681998 A1 19951115 - US GYPSUM CORP [US]
- [X] US 4054461 A 19771018 - MARTIN ROBERT C
- [X] US 4183908 A 19800115 - ROLFE RICHARD B [US]
- [X] US 3920465 A 19751118 - BURKARD EDWARD A, et al
- [X] DATABASE WPI Section Ch Week 7836, Derwent World Patents Index; Class E33, AN 78-64264A, XP002087559
- [X] DATABASE WPI Section Ch Week 9146, Derwent World Patents Index; Class A93, AN 91-337678, XP002087560

Citation (examination)

JP H06171008 A 19940621 - YOSHINO GYPSUM CO

Designated contracting state (EPC)

AT BE CH DE DK ES FI FR GB GR IE IT LI NL PT SE

DOCDB simple family (publication)

WO 9908979 A1 19990225; AR 016861 A1 20010801; AT E517070 T1 20110815; AU 747208 B2 20020509; AU 747208 C 20030109; AU 8674798 A 19990308; AU 9110598 A 19990308; BR 9806094 A 19990824; CA 2268105 A1 19990225; CA 2268105 C 20090526; CN 100497240 C 20090610; CN 101104554 A 20080116; CN 101104554 B 20120509; CN 1237148 A 19991201; CZ 140899 A3 20000112; CZ 301489 B6 20100324; DK 0939748 T3 20111114; EG 21409 A 20011031; EP 0939748 A1 19990908; EP 0939748 B1 20110720; EP 1655273 A1 20060510; EP 2263986 A1 20101222; EP 2263987 A1 20101222; ES 2368617 T3 20111118; ES 2368617 T8 20131129; HK 1023331 A1 20000908; ID 21641 A 19990708; IL 129213 A0 20000217; IL 129213 A 20051120; JP 2001504795 A 20010410; JP 4332223 B2 20090916; KR 100655510 B1 20061208; KR 20000068815 A 20001125; MY 123986 A 20060630; NO 331170 B1 20111024; NO 991885 D0 19990420; NO 991885 L 19990617; NZ 334916 A 20000929; PL 197512 B1 20080430; PL 332857 A1 19991025;

PT 939748 E 20110927; RO 121024 B1 20061130; RU 2215708 C2 20031110; SA 98190600 B1 20061104; SK 287942 B6 20120503;
SK 42399 A3 20000214; TR 199900878 T1 19991122; TW 552247 B 20030911; US 2009047545 A1 20090219; US 2010273020 A1 20101028;
US 2011132235 A1 20110609; US 2012135179 A1 20120531; US 2013025504 A1 20130131; US 2013338270 A1 20131219;
US 7758980 B2 20100720; US 7964034 B2 20110621; US 8142914 B2 20120327; US 8303709 B2 20121106; US 8500904 B2 20130806;
US 8974597 B2 20150310; WO 9908978 A1 19990225

DOCDB simple family (application)

US 9817293 W 19980821; AR P980104177 A 19980824; AT 98943276 T 19980821; AU 8674798 A 19980730; AU 9110598 A 19980821;
BR 9806094 A 19980821; CA 2268105 A 19980821; CN 200710108899 A 19980821; CN 98801196 A 19980821; CZ 140899 A 19980821;
DK 98943276 T 19980821; EG 95798 A 19980818; EP 05023825 A 19980821; EP 10009911 A 19980821; EP 10010017 A 19980821;
EP 98943276 A 19980821; ES 98943276 T 19980821; HK 00102459 A 20000426; ID 990216 A 19970821; IL 12921398 A 19980821;
JP 51361399 A 19980821; KR 19997003505 A 19990421; MY PI9803815 A 19980821; NO 991885 A 19990420; NZ 33491698 A 19980821;
PL 33285798 A 19980821; PT 98943276 T 19980821; RO 9900452 A 19980821; RU 99110502 A 19980821; SA 98190600 A 19980930;
SK 42399 A 19980821; TR 9900878 T 19980821; TW 87113864 A 19980822; US 19020308 A 20080812; US 201113027944 A 20110215;
US 201213364275 A 20120201; US 201213630125 A 20120928; US 201313934028 A 20130702; US 79701310 A 20100609;
US 9815874 W 19980730